

# ANNUAL REPORT FOR 2000



**Bogue Sound Mitigation Site**

**Carteret County**

**TIP No. U-2226**



Prepared By:  
Natural Systems Unit & Roadside Environmental Unit  
North Carolina Department of Transportation  
December 2000

## **TABLE OF CONTENTS**

SUMMARY.....	1
1.0 INTRODUCTION .....	2
1.1 Project Description .....	2
1.2 Purpose .....	2
1.3 Project History .....	2
2.0 VEGETATION.....	4
2.1 Success Criteria .....	4
2.2 Description of Species .....	4
2.3 Results of Vegetation Monitoring (5 year) .....	4
2.4 Conclusions .....	5
3.0 OVERALL CONCLUSIONS/ RECOMMENDATIONS .....	6

## **FIGURES**

Figure 1. Site Location Map .....	3
-----------------------------------	---

## **APPENDIX**

APPENDIX A - SITE PHOTOS and VEGETATION PLOT MAP .....	8
--	---

## **SUMMARY**

The Bogue Sound Mitigation Site is located in Carteret County and compensates as mitigation for marsh wetland impacts associated with TIP Project No. U-2226. This report details the fifth year of vegetation monitoring since initial planting.

The site is monitored by ten transects, five in a reference wetland and five in the planted area. Each transect is monitored for percent frequency and percent coverage of the target specie. The reference area showed a percent frequency of 80.0% and a percent area coverage of 60.7%. The planted area had a percent frequency of 53.3% and an area coverage of 29.5%, both below the required criteria.

NCDOT intends to continue monitoring of the site.

## 1.0 INTRODUCTION

### 1.1 Project Description

The site is located approximately 3,500 feet south of Morehead City and west of the bridge connecting Morehead City and Atlantic Beach (Figure 1). It consists of 5.9 acres of salt marsh restoration and is designed to offset marsh wetland impacts associated with project U-2226.

### 1.2 Purpose

This report details the vegetation monitoring during 1999 at the Bogue Sound Mitigation Site. Hydrologic monitoring was not required on the site.

### 1.3 Project History

May 5 - June 4, 1996	Site Constructed and Planted
July 1996	Hurricane Bertha
August 1996	Vegetation Monitoring (1 yr.)
September 1996	Hurricane Fran
October 1996	Vegetation Monitoring
August 1997	Vegetation Monitoring (2 yr.)
May 1998	Supplemental Planting
August 1998	Vegetation Monitoring (3 yr.)
September 1999	Hurricane Floyd
September 1999	Vegetation Monitoring (4 yr.)
August 2000	Vegetation Monitoring (5 yr.)

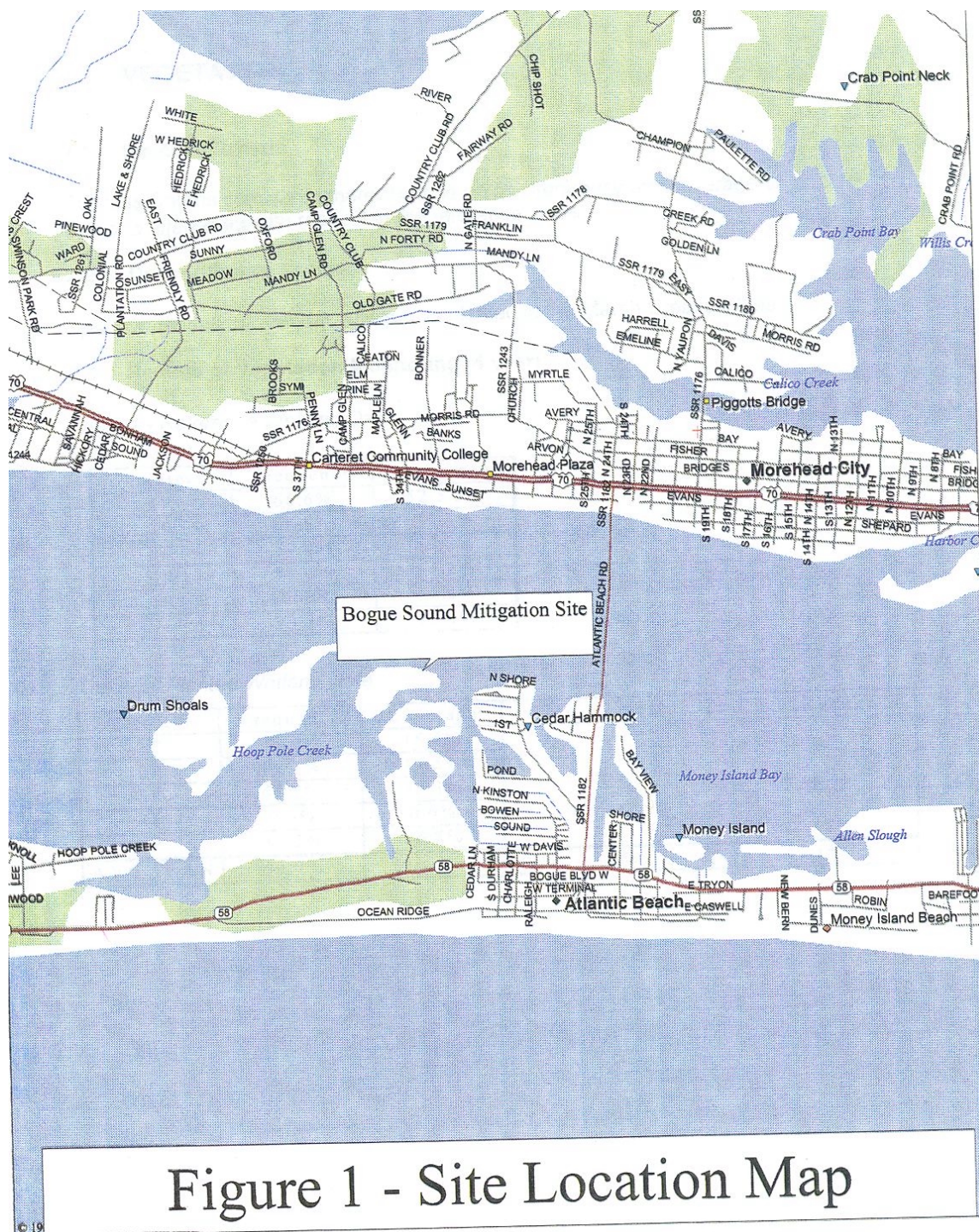


Figure 1 - Site Location Map



## 2.0 VEGETATION: BOGUE SOUND MITIGATION SITE (YEAR 5 OF 3)

### 2.1 Success Criteria

Success Criteria states that there must be a 75% frequency and coverage of *Spartina alterniflora* with respect to the reference areas.

### 2.2 Description of Species

The following marsh specie were planted in the Marsh Creation Area:

*Spartina alterniflora*

### 2.3 Results of Vegetation Monitoring (5 year)

#### Reference

Transect	Frequency	Coverage
1R	83.3%	61.7%
2R	83.3%	55.8%
3R	100.0%	83.3%
4R	66.7%	44.2%
5R	66.7%	58.3%
AVG/TRAN	80.0%	60.7%

#### Planted

Transect	Frequency	Coverage	Freq. Required	Cover Required
1P	83.3%	31.0%		
2P	0.0%	0.0%		
3P	66.7%	38.3%		
4P	83.3%	72.5%		
5P	33.3%	5.8%		
AVG/TRAN	53.3%	29.5%	60.0%	45.5%

## Vegetation Monitoring – 5 Year Trend

		FREQUENCY	COVERAGE
REFERENCE	1996	60.0%	44.6%
	1997	63.3%	41.6%
	1998	66.4%	52.1%
	1999	73.3%	55.4%
	2000	80.0%	60.7%
PLANTED	1996	30.0%	1.5%
	1997	6.7%	1.1%
	1998	23.3%	5.1%
	1999	40.0%	18.7%
	2000	53.3%	29.5%

### 2.3 Conclusion

There are 5.9 acres of salt marsh creation on this site. There were 10 transects established throughout the island, five within the planted area and five within a reference area. Along each of the 30 meter transect, there are six (1.0 meter square) sample plots at 6-meter intervals that were monitored. Each sample plot was surveyed for frequency and the percent coverage as shown previous in the tables. The average frequency of the reference transects is 80.0% and the average area coverage is 60.7%. The success criteria requires the planted area to be within 75% or greater in frequency and coverage of the reference area. The average frequency of the planted area was 53.3% and the average area coverage was 29.5%. While the site is still not meeting the success criteria, both frequency and coverage planted sections of the site are increasing as expected.

NCDOT proposes to have aerial photos of the site taken this year to determine how much, if any, of the site has changed since it was originally planted. While frequency and coverage have both increased since planting the site does not yet meet the success criteria. NCDOT will consult with the agencies whether supplemental planting may be necessary.

### **3.0 OVERALL CONCLUSIONS/ RECOMMENDATIONS**

NCDOT will continue to conduct vegetation monitoring at the Bogue Sound Mitigation Site.



## **APPENDIX A - SITE PHOTOS AND SITE PLAN**

## BOGUE SOUND SITE PHOTOS



Photo 1



Photo 2

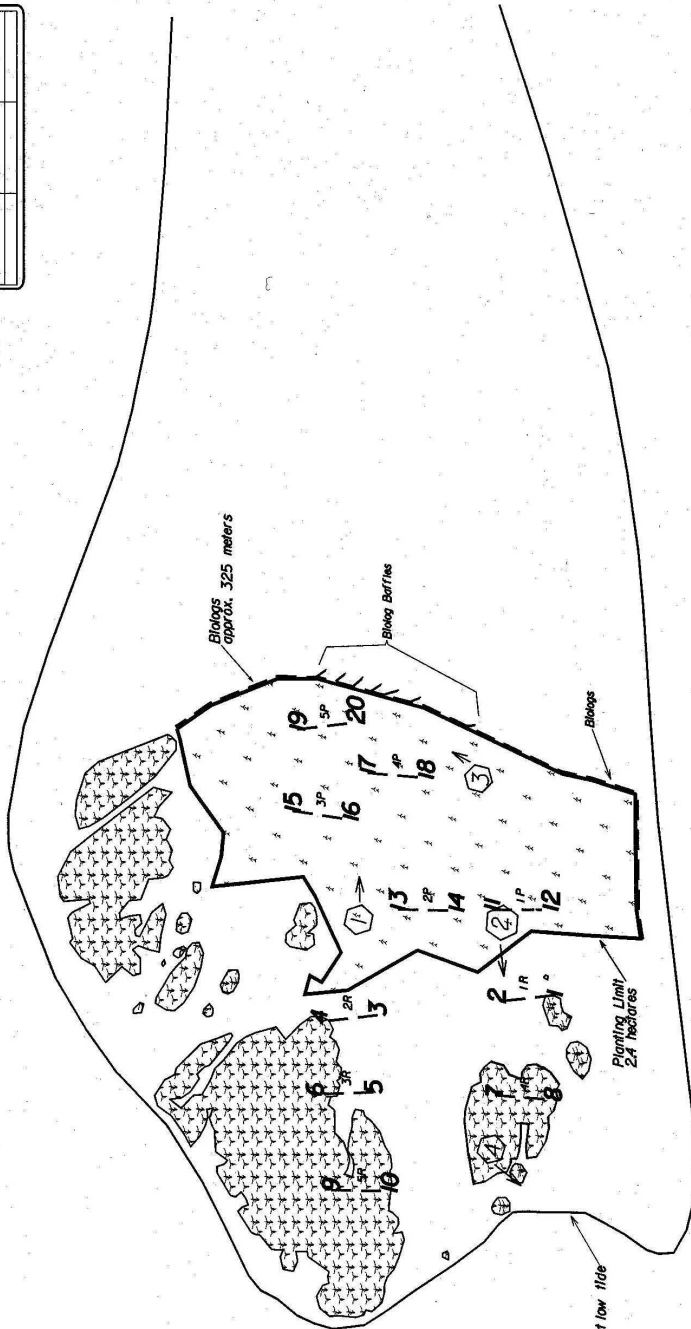
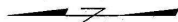


Photo 3



Photo 4

STATE	PROJECT NUMBER	DATE	SCALE
N.C.	U-2226		
PROJECT NAME		DRAWN BY	
Wetland Mitigation		J.L. Johnson	
DATE		DATE	



PHOTOS

Existing Marsh	Planted Marsh May-June 1996	Monitoring Transects
		2R

# **Bogue Sound Wetland Mitigation Site**

